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Sporidesmiopsis lushanensis sp. nov. from Lushan Mountain, China

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Abstract—*Sporidesmiopsis lushanensis* is described and illustrated as a new species from dead stems of an unidentified broadleaf tree in Jiangxi Province, China. The fungus is characterized by macronematous conidiophores with apical branches and conidiogenous cells arising from stipe and branches with 6–7-euseptate conidia. A key to *Sporidesmiopsis* species is provided.

Key words—hyphomycetes, taxonomy, *Sordariales*

Introduction

Sporidesmiopsis Subram. & Bhat, established in 1989 with *S. malabarica* Subram. & Bhat as type species, is distinguished from *Sporidesmium* Link by its apically branched mononematous conidiophores and conidiogenous cells produced on both stipe and branches (Subramanian & Bhat 1989, Wongsawas et al. 2008). However, *S. malabarica* was subsequently determined to be a synonym of the earlier *Brachysporiella dennisii* J.L. Crane & Dumont, which was transferred to *Sporidesmiopsis* as *S. dennisii* (J.L. Crane & Dumont) Bhat et al. (Bhat & Kendrick 1993). Five other species have been described in the genus: *S. goanensis* Bhat & W.B. Kendr., *S. guangxiensis* J.W. Xia & X.G. Zhang, *S. malloti* J.W. Xia & X.G. Zhang, *S. pluriseptata* J.S. Monteiro et al., and *S. zhejiangensis* Wongs.

et al. (Bhat & Kendrick 1993, Wongsawas et al. 2008, Xia et al. 2014, 2015, Monteiro et al. 2016), but *S. zhejiangensis* was subsequently transferred to *Ellisembiopsis* Santa Izabel & Gusmão, due to its distoseptate conidia (Santa Izabel et al. 2013). Thus, only five species are currently accepted in *Sporidesmiopsis*.

Among our fungal collections from Lushan Mountain, a hyphomycetous specimen with the morphological characteristics of *Sporidesmiopsis* was collected, which we describe here as a new species, *S. lushanensis*. Type specimens are conserved in the Herbarium of Department of Plant Pathology, Shandong Agricultural University, Taian, China (HSAUP) and Herbarium Mycologium, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China (HMAS).

Sporidesmiopsis lushanensis J.W. Xia & X.G. Zhang, **sp. nov.** FIG. 1

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Differs from *Sporidesmiopsis goanensis*, *S. guangxiensis*, and *S. malloti* by its wider conidia.

TYPE: China, Jiangxi Province: Lushan Mountain, on dead stems of an unidentified broadleaf tree, 25 Oct. 2016, J.W. Xia (**Holotype**, HSAUP H6725; **isotype**, HMAS 245644).

ETYMOLOGY: in reference to the type locality.

COLONIES on the natural substrate effuse, brown to dark brown, hairy. Mycelium superficial and partly immersed, composed of septate, pale brown, smooth hyphae, 1–2 µm diam. CONIDIOPHORES distinct, single, branched, erect, straight or slightly flexuous, cylindrical, smooth, thick-walled, brown to dark brown, 8–15-septate, 250–450 × 10–14 µm. CONIDIOGENOUS CELLS monoblastic, integrated and discrete, cylindrical, truncate at the apex after conidium secession, 12.5–20 × 5–7 µm. CONIDIA solitary, dry, fusiform, base truncate, apex rounded, brown to dark brown, 30–50 × 11.5–15.5 µm, 6–7-euseptate.

COMMENTS—Three *Sporidesmiopsis* species differ from *S. lushanensis* by their narrower conidia: *S. goanensis* (5–7 µm; Bhat & Kendrick 1993), *S. guangxiensis* (6–7.5 µm; Xia et al. 2014), and *S. malloti* (8.5–11.5 µm; Xia et al. 2015). *Sporidesmiopsis dennisii* and *S. pluriseptata* differ from *S. lushanensis* by their longer conidia with much more numerous septa (see FIG. 2).

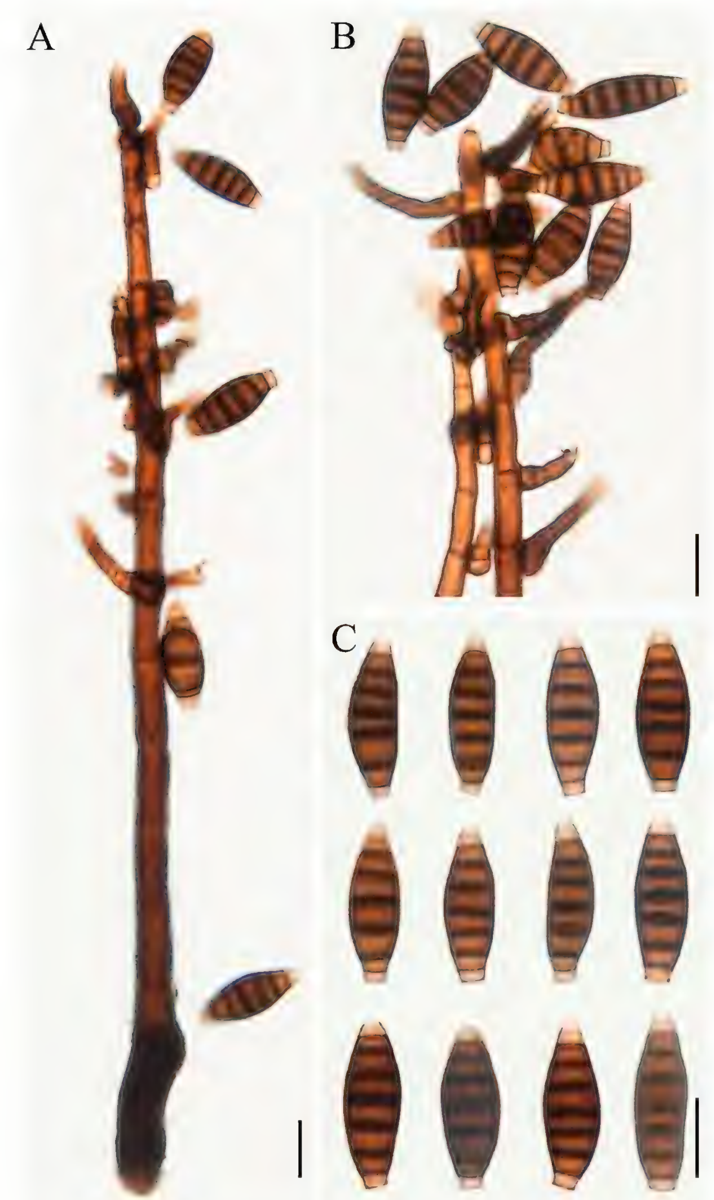

FIG. 1. *Sporidesmiopsis lushanensis* (holotype, HSAUP H6725).
A, B. Conidiophores, conidiogenous cells, and conidia; C. Conidia. Scale bars = 20 μm.

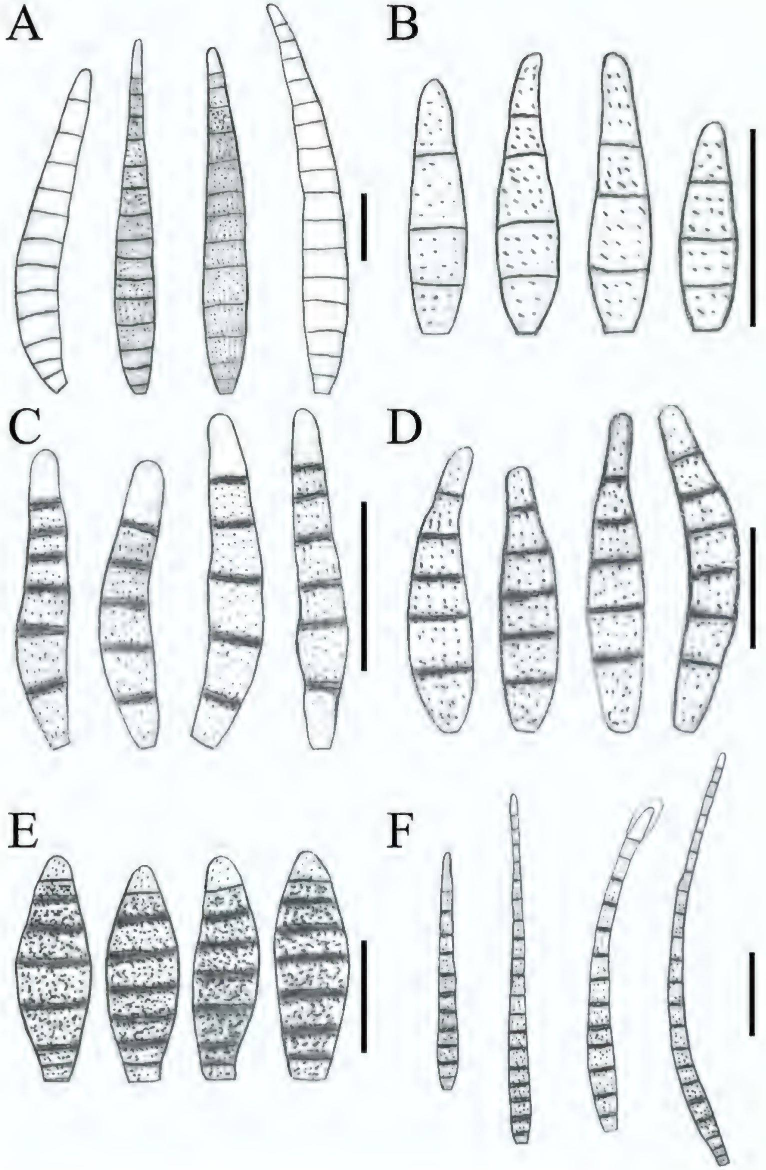

Fig. 2. *Sporidesmiopsis* spp., representative conidia (re-drawn from the literature). A. *S. dennisii* (Subramanian & Bhat 1989, as *S. malabarica*); B. *S. goanensis* (Bhat & Kendrick 1993); C. *S. guangxiensis* (Xia et al. 2014); D. *S. malloti* (Xia et al. 2015); E. *S. lushanensis* (this work); F. *S. pluriseptata* (Monteiro et al. 2016). Scale bars = 20 µm.

Key to species of *Sporidesmiopsis*

1. Conidia ≥10-euseptate	2
1. Conidia ≤7-euseptate	3
2. Conidia 69–92 × 9–13 µm, 10–15-euseptate	*S. dennisii*
2. Conidia 80–130 × 6–8.5 µm, 10–15-euseptate	*S. pluriseptata*
3. Conidia fusiform, 30–50 × 11.5–15.5 µm, 6–7-euseptate	*S. lushanensis*
3. Conidia obclavate to fusiform, ≤11.5 µm diam.	4
4. Conidia 20–30 × 5–7 µm, 3–4-euseptate	*S. goanensis*
4. Conidia ≥32 µm long	5
5. Conidia 32–40 × 6–7.5 µm, 5–6-euseptate	*S. guangxiensis*
5. Conidia 35–60 × 8.5–11.5 µm, 3–7-euseptate	*S. malloti*

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